## DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

#### LAKE TROPHIC DATA

#### MORPHOMETRIC:

Lake: COUNTRY POND		Lake Area (ha):	103.19
Town: KINGSTON		Maximum depth (m):	9.4
County: Rockingham	m	Mean depth (m):	2.6
River Basin: Merrimack		Volume (m³):	3268000
Latitude: 42°53'21"	N	Relative depth:	0.7
Longitude: 71°03'35"	W	Shore configuration:	1.95
Elevation (ft):	115	Areal water load (m/yr	): 16.39
Shore length (m):	7700	Flushing rate $(yr^{-1})$ :	6.20
Watershed area (ha):	4221.7	P retention coeff.:	0.50
% watershed ponded:	2.2	Lake type: natura	al w/dam

BIOLOGICAL:	19 February 2003	13 August 2002
DOM. PHYTOPLANKTON (% TOTAL) #1	RHIZOSOLENIA 65%	MICROCYSTIS 30%
#2	ASTERIONELLA 30%	TABELLARIA 25%
#3		RHIZOSOLENIA 15%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		3.63
DOM. ZOOPLANKTON (% TOTAL) #1	NAUPLIUS LARVA 42%	KERATELLA 27%
#2	KERATELLA 29%	POLYARTHRA 13%
#3	·	NAUPLIUS LARVA 12%
ROTIFERS/LITER	42	127
MICROCRUSTACEA/LITER	64	81
ZOOPLANKTON ABUNDANCE (#/L)	106	263
VASCULAR PLANT ABUNDANCE		Common/Abun
SECCHI DISK TRANSPARENCY (m)		2.4
BOTTOM DISSOLVED OXYGEN (mg/L)	4.4	0.4
BACTERIA (E. coli, #/100 ml) #1		9
#2		4
#3		

### SUMMER THERMAL STRATIFICATION:

#### stratified

Depth of thermocline (m): 4.5 Hypolimnion volume (m³): 178500 Anoxic volume (m³): 378500

Lake: COUNTRY POND Town: KINGSTON					
	19 February 2003 13 August 2002		)2		
DEPTH (m)	3.0	6.0	1.0	4.0	8.0
pH (units)	6.4	6.3	6.9	6.4	6.4
A.N.C. (Alkalinity)	16.9	16.8	11.1	11.2	39.6
NITRATE NITROGEN	0.11	0.16	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.70	0.60	0.50	0.60	1.20
TOTAL PHOSPHORUS	0.015	0.013	0.010	0.011	0.043
CONDUCTIVITY (µmhos/cm)	266.0	344.0	220.0	216.0	227.0
APPARENT COLOR (cpu)	39	39	60	65	150
MAGNESIUM			2.44		
CALCIUM			8.7		
SODIUM			26.1		
POTASSIUM			1.93		
CHLORIDE	56	77	52		50
SULFATE	12	14	6		5
TN : TP	54	. 58	50		28
CALCITE SATURATION INDEX			2.4		

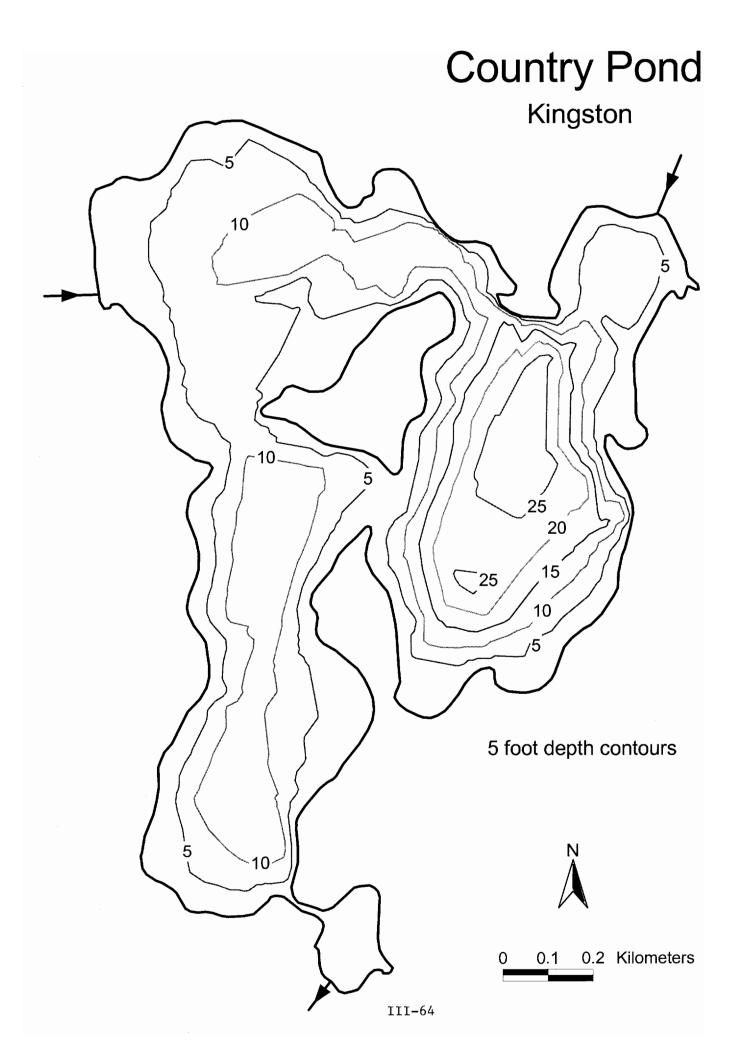
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 2002

D.O.	s.D.	PLANT	CHL	TOTAL	CLASS
4	3	4	0	11	Meso.

#### COMMENTS:

- 1. Previously surveyed in 1976 and 1985.
- 2. This is a tea-colored, borderline meso-eutrophic pond. Phosphorus, Kjeldahl nitrogen, color and ANC were elevated in the anoxic bottom waters. Elevated sodium, chloride and conductivity values suggest road salt runoff is reaching the pond.
- 3. Two town beaches and a marina were present.
- 4. Although the algal concentration was low, the dominant species during the August sampling was a blue-green alga.



#### FIELD DATA SHEET

LAKE: COUNTRY POND

TOWN: KINGSTON

WEATHER: Clear, very hot & humid; DATE: 08/13/2002

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION			
0.1	27.8	8.9	110 %			
1.0	27.2	8.9	110 %			
2.0	25.4	8.9	81 %			
3.0	24.1	6.5	17 %			
4.0	20.8	1.5	2 %			
5.0	15.8	0.2	2 %			
6.0	13.4	0.2	2 %			
7.0	12.0	0.2	2 %			
8.0	11.2	0.3	4 %			
8.5	11.4	0.4	4 %			
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SECCHI DISK (m): 2.4

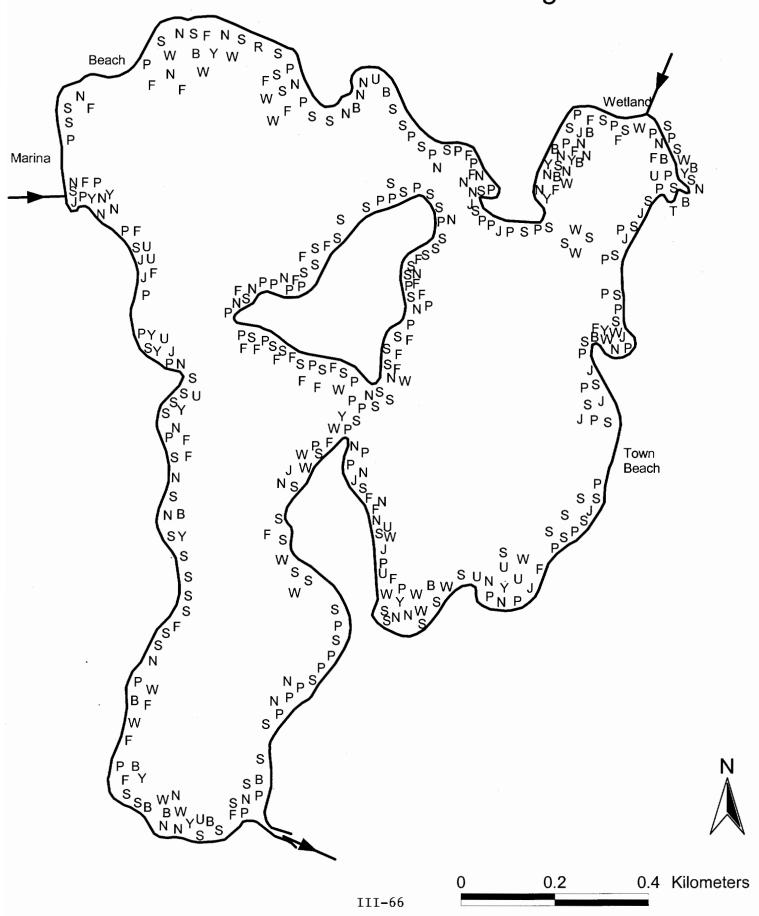
COMMENTS:

BOTTOM DEPTH (m): 9.0

TIME: 1315

\*Dissolved oxygen values are in mg/L

# Country Pond Kingston



#### AQUATIC PLANT SURVEY

LAK	E: COUNTRY POND	TOWN: KINGSTON	DATE: 08/13/2002	
Key	PLANT	NAME	ABUNDANCE	
ией	GENERIC	COMMON	ABUNDANCE	
S	Sparganium	Bur reed	Common/Abun	
W	Potamogeton	Pondweed	Common/Abun	
N	Nymphaea	White water lily	Common	
F	Nymphoides cordatum	Floating heart	Common/Abun	
P	Pontederia cordata	Pickerelweed	Common	
J	Juncus	Rush	Common	
Y	Nuphar	Yellow water lily	Scattered	
В	Brasenia schreberi	Water shield	Scat/Common	
บ	Utricularia	Bladderwort	Common	
T	Typha	Cattail	Scattered	
R	Ranunculus	Buttercup	Sparse	
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#### OVERALL ABUNDANCE: Common/Abun

#### GENERAL OBSERVATIONS:

- 1. At least three different species of submerged pondweeds were present and inter-mixed.
- 2. Plants were common to abundant around the entire immediate shore but were not present in water deeper than approximately seven feet; therefore, much open water was present.
- 3. The northeast outlet end of the pond was bordered by wetlands.